

CLAIMS

1. A polypeptide comprising one or more of: (a) an amino acid sequence selected from the group consisting of SEQ ID NOS: 51, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, and 54; (b) an amino acid sequence having at least 70% identity a sequence as defined in (a); and/or (c) an amino acid sequence comprising a fragment of at least 8 consecutive amino acids of a sequence as defined in (a).
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2. The polypeptide of claim 1, wherein the fragment of (c) does not include one or more of four domains of the sequence of (a).
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3. The polypeptide of claim 1, wherein the fragment of (c) includes at least one complete domain of the sequence of (a).
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4. The polypeptide of any preceding claim, in oligomeric form.
5. A polypeptide of the formula $\text{NH}_2 \text{A}-\{\text{-X-L-}\}_x\text{B-COOH}$, wherein: X comprises an amino acid sequence: (a) having at least 70% identity to one or more of SEQ ID NOS: 1-18, 51 & 54; and/or (b) which is a fragment of at least 8 consecutive amino acids of one or more of SEQ ID NOS: 1-18, 51 or 54; L is an optional linker amino acid sequence; A is an optional N terminal amino acid sequence; B is an optional C terminal amino acid sequence; and x is 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 or 20.
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6. A polypeptide comprising the amino acid sequence -A-W₁-W₂-W₃-W₄-B-, wherein:
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A is an optional N-terminus sequence;
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B is an optional C-terminus sequence;
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W₁ is an optional amino acid sequence: (a) having at least 70% identity to the leader peptide of one or more of SEQ ID NOS: 1-18 & 51; and/or (b) which is a fragment of at least 8 consecutive amino acids of the leader peptide of one or more of SEQ ID NOS: 1-18 & 51;
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W₂ is an optional amino acid sequence: (a) having at least 70% identity to the globular head of one or more of SEQ ID NOS: 1-18 & 51; and/or (b) which is a fragment of at least 8 consecutive amino acids of the leader peptide of one or more of SEQ ID NOS: 1-18 & 51;
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W₃ is an optional amino acid sequence: (a) having at least 70% identity to the coiled-coil domain of one or more of SEQ ID NOS: 1-18 & 51; and/or (b) which is a fragment of at least 8 consecutive amino acids of the leader peptide of one or more of SEQ ID NOS: 1-18 & 51;
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W₄ is an optional amino acid sequence: (a) having at least 70% identity to the transmembrane anchor region of one or more of SEQ ID NOS: 1-18 & 51; and/or (b) which is a fragment of at least 8 consecutive amino acids of the leader peptide of one or more of SEQ ID NOS: 1-18 & 51;
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provided that at least one of W₁, W₂, W₃ or W₄ is present.

7. An adhesin from *Haemophilus aegyptius*, wherein the adhesin comprises: (a) amino acid sequence SEQ ID NO: 52; (b) an amino acid sequence having at least 70% identity to SEQ ID NO: 52; and/or (c) an amino acid sequence which is a fragment of at least 8 consecutive amino acids of SEQ ID NO: 52.
- 5 8. Antibody that bind to the polypeptide of claim 1.
9. Nucleic acid encoding the polypeptide of claim 1 or the antibody of claim 8.
10. A pharmaceutical composition comprising a polypeptide and/or a nucleic acid and/or an antibody of any preceding claim.
11. The composition of claim 10, for use as a medicament.
- 0 12. The use of the polypeptide of claim 1 in the manufacture of a medicament for raising an immune response in a mammal.
13. A method for raising an immune response in a mammal comprising the step of administering an effective amount of the composition of claim 10.